

CLAIMS

1. A device for filling soluble containers comprising:

an assembly for orienting capsules;

said assembly comprising at least one sheet component for orienting capsules and at least one base component for guiding the oriented capsules therethrough to a following assembly:

said sheet component comprising at least one first sheet and at least one second sheet; said sheets being set apart and capable of being displaced relatively to each other;

said first sheet comprising a plurality of notches for accommodating the capsules loaded thereto, in coordination with said second sheet;

said second sheet comprising a plurality of notches adapted to substantially orient the capsules into filling position; **wherein the improvement** comprises at least one displacement limitation means in at least one of said sheets to limit relative displacement of said first sheet and said second sheet.

2. The device according to claim 1 wherein the displacement limitation means is at least one slot for sliding, in at least first sheet or in at least second sheet or in combination thereof.

3. The device according to claim 1 or claim 2 wherein said first sheet comprises an opening closing means having at least a pair of thumb operable tabs in said opening and closing means and to retain said opening closing means in substantially closed position in non-operated state of the opening closing means.

4. The device according to any foregoing claim wherein the longitudinal axes of at least a substantial number of notches in first sheet are inclined relative to the length of the opening closing means.
5. The device according to claim 1, 2 or 3 wherein the longitudinal axes of at least a substantial number of notches in first sheet are orthogonal to the length of the opening closing means.
6. The device according to any foregoing claim wherein the first sheet and second sheet are configured as a sub-assembly and is capable of being used as a change-part in pre-assembled condition.
7. The device according to any foregoing claim wherein the base component comprises atleast four locating feet for supporting and locating the assembly for orienting capsules.
8. The device according to any foregoing claim wherein the distance between the first sheet and the second sheet is maintained such that the capsules sit perfectly within the notches without jumping off from the seated position.
9. The device according to any foregoing claim wherein the notches of the second sheet comprises a first section and a second section wherein the size of the first section and the second section are in relation to the size of the capsules and configured as disclosed in table no. 2 accompanying this specification.
10. The device according to any of claims 1 to 9 further comprises an assembly for filling capsules comprising:

a sheet component for holding a portion of capsules and thereby facilitating separation of the body portion and the cap portion of the

capsules, and a base component for supporting a portion of the separated capsules;

said sheet component comprising atleast a pair of sheets and said each sheet having a plurality of holes therein to allow passage of capsules therethrough for holding of a portion of each of the capsules for facilitating separation into body portion and cap portion wherein atleast one of such said sheets is displaceable relative to one or more sheets for effecting gripping of a portion of the capsules during separation of body portion and cap portion of capsules;

said base component comprising a displacement means for effecting relative displacement of said sheets;

11. The device according to claim 10 wherein the displacement means is a cam assembly mounted to the base component such that the sheets are replaceable for filling other size capsules without removing cam.

12 The device according to claim 10 or claim 11 wherein the cam is an eccentric cam having an offset distance of atleast 1mm.

13. The device according to any one of claims 10 to 12 wherein the base component comprises a thumb post to facilitate operation of the cam assembly by operator's thumb.

14. The device according to any one of claims 10 to 13 wherein the sheet positioned at foremost position from the upper side comprises atleast eight locating holes for locating an orienter assembly for over encapsulation.

15. The device according to any one of claims 10 to claim 14 wherein the sheets are adapted to hold the body of the capsules in a single plane for enabling separation of the body portion and cap portion of the capsules.

16. The device according to any one of claims 10 to 15 wherein the sheets have profile-cut portions and profile-cut strips that are capable of being positioned in mating relationship with each other to enable gripping the body of the capsules in a single plane for enabling separation of the body portion and cap portion of the capsules.

17. The device according to any foregoing claim further comprises a capsule tray adapted to form a gap to release entrapped air inside the caps and thereby avoid popping out of cap of the capsules after separation into body portion and cap portion.